**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

January 28, 2000

Mr. Robert W. Varney, Commissioner
Department of Environmental Services
6 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Dear Commissioner Varney:

The Environmental Protection Agency (EPA) has completed its review of the Department of Environmental Service's (DES) revisions to its surface water quality standards regulations. These revisions are contained in the "State of New Hampshire Surface Water Quality Regulations, Chapter 1700" and were adopted on December 3, 1999, with an effective date of December 10, 1999. The revisions amend the surface water quality regulations adopted September 30, 1996 and were certified by New Hampshire's Senior Assistant Attorney General on January 21, 2000 as having been legally adopted pursuant to state law.

As you are aware, EPA had concerns with the September 30, 1996 regulations that prevented our approval. The December 3, 1999 revisions are a result of considerable effort by DES and EPA to resolve the issues. I thank you and your staff for a strong commitment to adopting a number of revisions that will significantly strengthen New Hampshire's ability to protect its waters and further progress towards achieving the objectives of the Clean Water Act (CWA).

Some of the more significant revisions are:

o Clarification that New Hampshire's water quality standards regulations are applicable to all waters of the United States as defined in 40 CFR 122.2.

o Clarification that the full "goal uses" at CWA section 101(a)(2), i.e., protection and propagation of fish, shellfish and wildlife, and recreation in and on the water, are designated uses for New Hampshire class A and class B waters.

o Specific recognition of the importance of water quantity by adoption of a requirement that surface water quantity be maintained at levels adequate to protect existing and designated uses.

o Adoption of an instantaneous minimum dissolved oxygen criterion of 5 mg/l for class B waters.

o Adoption of dissolved oxygen criteria consistent with EPA guidance specific to protection of spawning and early life stages of cold water fish.

o Inclusion of a narrative criterion for "biological and aquatic community integrity" that is consistent with EPA's recommended Karr and Dudly, 1981, definition of biological integrity.

o Update of the numeric criteria for toxic substances consistent with EPA's December 10, 1998 summary of its 304(a) ambient water quality criteria guidance (63 FR 68354, with corrections).

o Revision of the freshwater ammonia criteria consistent with EPA's 1998 Update of Ambient Water Quality Criteria for Ammonia and its Cold-Season Risk Management Policy recommendations. Freshwater, and saltwater, ammonia criteria are applicable throughout the year.

o Revision of the ambient stream flow for application of human health criteria for carcinogens from mean annual to EPA's recommended long term harmonic mean.

o Revision of the antigedradation policy and implementation procedures consistent with 40 CFR 131.12 and EPA guidance.

In addition to revisions to the regulations, New Hampshire House Bill 1155 was signed by the Governor on May 13, 1998 deleting the temporary partial use (TPU) authority for low flow surface waters receiving wastewater treatment plant effluent. The TPU authority had been a concern to EPA because it side stepped the use attainability analysis process. We thank DES for supporting the TPU repeal.

I hereby approve the new and revised standards noted above along with the other revisions the DES has adopted. Many of the additional revisions, while important, are more "house keeping" in nature. This approval covers the December 3, 1999 revisions and revisions of September 30, 1996 that were not further revised in the December 3, 1999 regulations. Revisions to the September 30, 1996 regulations are identified in an annotated version of the December 3, 1999 regulations which was included in the submital from Harry Stewart, DES Water Division Director, by letter of January 21, 2000 (Attachment A.). This approval is made pursuant to Section 303(c) of the Clean Water Act and 40 CFR Part 131, and is based on my determination that the approved revisions are consistent with the requirements of Section 303 of the Act.

In making this approval, I have the following comments concerning certain revisions.

**Bacteria Requirements for Combined Sewer Overflows**

EPA understands the handling of the new bacteria provision, at Env-Ws 1703.06, for combined sewer overflows (CSO) discharging to non-tidal waters to be as follows:

1) The E. coli and Enterococci criteria in New Hampshire statute at RSA 485-A remain the applicable instream criteria.

2) The new 1000 E. coli/100ml end of pipe requirement for CSOs at 1703.06(c) must be met in addition, essentially as a technology requirement.

3) Mixing zones, consistent with New Hampshire's mixing zone provisions, could be allowed to dilute from the end of pipe requirement to the applicable ambient criterion. Consistent with EPA guidance in the Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a, August 1994 for protecting public health, New Hampshire should ensure that bacterial indicator concentrations in a mixing zone are maintained at levels protective of human health wherever it appears that recreation will in fact occur.

4) Regardless of any use "downgrades" for primary contact recreation that could be supported through use attainability analysis, CSOs would always have to meet the 1000 E. coli/100ml end of pipe limit.

**Temperature Criteria**

During the review process, EPA expressed concern over the absence of numeric criteria for temperature and the absence of an implementation procedure for the narrative that clearly leads to the establishment of specific instream temperature conditions protective of aquatic communities in class B waters. As discussed in our letter of June 17, 1998, NHRSA 485-A:8 VIII requires the state to adhere to the water quality requirements and recommendations of the New Hampshire Fish and Game Department (NHFGD), the New England Interstate Water Pollution Control Commission or the United States Environmental Protection Agency, whichever provides the most effective level of protection. We appreciate that New Hampshire has included reference to NHRSA 485-A:8 VIII in the class B narrative criterion for temperature. As an interim resolution, EPA will use this provision and the general need to protect uses to ensure that NPDES permits contain effluent limits adequate to protect aquatic uses in New Hampshire's Class B waters. When developing limits, we will use EPA's ambient water quality criteria guidance for temperature and temperature criteria adopted by other New England states . Input from the NHFGD, the United States Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) will also be sought. We look forward to working cooperatively with DES as well.

This interim resolution does not address implementation for non-NPDES activities or the ambient temperature criteria that would be applicable regardless of the activity. Therefore, it is important that New Hampshire either provide implementation procedures that specifically outline how the narrative provisions for temperature are implemented to protect aquatic life uses, or adopt approvable numeric ambient water quality criteria for temperature. If the temperature issue is not adequately resolved for the next triennial

review, the Region is prepared to recommend, pursuant section 303(c)(2)(B) of the CWA, that the Administrator determine that a new standard is necessary and act to federally promulgate. We are committed to working with DES to resolve the issue to our mutual satisfaction.

**Ammonia Criteria**

As recognized above, New Hampshire revised its freshwater ammonia criteria in response to EPA's "1998 Update" and the accompanying cold-season risk management policy recommendations. New Hampshire included a provision that will allow freshwater chronic criteria as much as 3 times greater than the statewide values for the period November 1 through May 31 if the Department determines based on appropriate information that fisheries will be fully supported. In applying this provision, we encourage DES to closely involve NHFGD, USFWS, and NMFS, as well as EPA, as necessary to ensure protection of aquatic communities. Also, subsequent to DES's adoption of the 1998 Update, EPA published the 1999 Update of Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. To ensue protection in accordance with the newest information concerning ammonia toxicity, the "1999 Update" should be considered when implementing the State's current provisions. DES should prepare to adopt EPA's latest recommendations for freshwater ammonia, as necessary to ensure protection of aquatic life, during the next triennial review.

**Antidegradation**

DES adopted numerous revisions to its antidegradation policy and implementation procedures that will significantly improve the ability to protect existing uses, high quality waters, and Outstanding Resource Waters of New Hampshire. An example is the specific recognition of threatened or endangered species in the existing use provisions and the procedures for distinguishing between insignificant and significant lowering of water quality. Your cooperation in revising the antidegradation provisions is very much appreciated. New Hampshire's antidegradation implementation procedure can be used as an example for other states.

Notwithstanding the above, it is important that we again note that the federal antidegradation regulation does not contain an impact threshold below which degradation can occur without a full review to ensure that a lowering of water quality is necessary to accommodate important economic or social development. However, in the Great Lakes Guidance documentation EPA expressed a willingness to accept a narrow de minimis provision that would allow discharges having a negligible effect on the receiving water to avoid a full antidegradation analysis (with the exception of bioaccumulative pollutants of concern). In keeping with past practice in Region 1 of allowing states to differentiate between insignificant and significant lowering of high quality water, thus focusing limited resources on the more critical antidegradation issues, we are approving the 20% threshold

that DES adopted. The provision that allows DES to determine on a case by case basis that any amount of lowering of water quality is significant and subject to a full review, and the provision providing an opportunity for public comment on preliminary decisions to allow any lowering of water quality, are important to our approval.

We note that public comment was received expressing concern with the 20% threshold and the insignificant lowering of water quality provision. As regional and national policy on the de minimus issue develops, it may become necessary to reconsider the 20% threshold.

**Water Quantity**

We are very appreciative of DES's recognition of the relationship between water quantity and the protection of existing and designated uses. This is an important issue for the Region, and we look forward to working jointly with DES and other state and federal agencies to ensure strong implementation New Hampshire's narrative criterion.

Finally, as you are aware, states are to review the entirety of their water quality standards at a minimum frequency of once every three years and adopt appropriate revisions as needed. To further assist DES in its next review, I have enclosed a copy of EPA's national program guidance for the FY 2000-2002 triennium (Attachment B).

My staff and I look forward to continued cooperation with the DES in developing water quality standards as part of our responsibilities under the Clean Water Act. Please feel free to contact me or either Carl Deloi (617/918-1581) or Bill Beckwith (617/918-1544) of my staff if you have any questions.

Sincerely,

Linda M. Murphy, Director
Office of Ecosystem Protection

Enclosures

cc: Harry Stewart, DES
George Berlandi, DES
Bill Ingham, NHFGD
Vernon Lang, USF&WS
Chris Mantzaris, NMFS
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